

Ser. No. 10/699,159
Examiner Amina S. Khan
US20010201(094342.0029)

IN THE CLAIMS

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method of cleaning comprising the steps of:
selecting a substantially non-reactive, non-aqueous, non-oleophilic, apolar working fluid; wherein said non-reactive, non-aqueous, non-oleophilic, apolar working fluid under standard conditions is further characterized by: a KB value less than approximately 30; a surface tension less than approximately 35 dynes/cm²; and a solubility in water less than 10%;
selecting at least one washing adjvant;
bringing said working fluid and adjvant in contact with the fabric;
applying mechanical energy to provide relative movement within said fabric;
separating said working fluid from the fabric; and
filtering the working fluid from the above step through a cross flow membrane filter to produce a permeate and a condensate routed along two different flow paths.
2. (Original) The method of claim 1 including the further step of filtering the permeate from the above step through an adsorbent bed filter.
3. (Previously Presented) The method of claim 1, further comprising passing vapors from said working fluid against a spinning disc to remove at least one of working fluid and water vapor from the air stream.
4. (Original) The method of claim 3 including the step of cooling the vapor contacted by the spinning disc.

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5. (Original) The method of claim 1 wherein said working fluid may have impurities of not more than approximately 20%.

6. (Original) The method of claim 1 wherein the washing adjuvant is selected from a group consisting of: builders, surfactants, enzymes, bleach activators, bleach catalysts, bleach boosters, bleaches, alkalinity sources, antibacterial agents, colorants, perfumes, pro-perfumes, finishing aids, lime soap dispersants, composition malodor control agents, odor neutralizers, polymeric dye transfer inhibiting agents, crystal growth inhibitors, photobleaches, heavy metal ion sequestrants, anti-tamishing agents, anti-microbial agents, anti-oxidants, linkers, anti-redeposition agents, electrolytes, pH modifiers, thickeners, abrasives, divalent or trivalent ions, metal ion salts, enzyme stabilizers, corrosion inhibitors, diamines or polyamines or alkoxylates, suds stabilizing polymers, solvents, process aids, fabric softening agents, optical brighteners, hydrotropes, water, suds or foam suppressors, suds or foam boosters, fabric softeners, antistatic agents, dye fixatives, dye abrasion inhibitors, anti-crocking agents, wrinkle reduction agents, wrinkle resistance agents, soil release polymers, soil repellency agents, sunscreen agents, anti-fade agents and mixtures thereof.

7. (Original) The method of claim 6 wherein a preferred surfactant for the system will have a hydrophilic-lipophilic balance from approximately 3 to 14.

8. (Original) A method of cleaning comprising the steps of:
selecting a substantially non-reactive, non-aqueous, non-oleophilic, apolar working fluid;
selecting at least one washing adjuvant;
bringing said working fluid and adjuvant in contact with the fabric;
applying mechanical energy to provide relative movement within said fabric;
separating said working fluid from the fabric;
cooling the working fluid for decreasing the dissolved soils in the working fluid; and
filtering said working fluid, wherein said working fluid may have impurities of not more

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than approximately 20%.

9. (Original) The method of claim 8 wherein said non-reactive, non-aqueous, non-oleophilic, apolar working fluid under standard conditions is further characterized by: a KB value less than approximately 30; a surface tension less than approximately 35 dynes/cm²; and a solubility in water less than 10%.

10. (Previously Presented) The method of claim 9 wherein the working fluid is filtered through a cross flow membrane filter creating a permeate and a condensate routed along two different flow paths.

11. (Original) The method of claim 10 including the further step of filtering the permeate from the above step through an adsorbent bed filter.

12. (Previously Presented) The method of claim 8 wherein vapors from said working fluid are treated by a high speed spinning disc which removes at least one of said working fluid and water vapor from the air stream.

13. (Original) The method of claim 12 including the step of cooling the vapor contacted by the spinning disc.

14-78. (Previously Canceled)

79. (Previously Added) The method of claim 1, further comprising the step of bringing the permeate and an adjuvant in contact with fabric for cleaning.

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80. (Previously Added) The method of claim 2, wherein filtering through the adsorbent bed filter produces a second permeate and the second permeate is a substantially purified working fluid that is greater than about 90 percent free from contaminates.

81. (Previously Added) The method of claim 2, wherein filtering through the adsorbent bed filter produces a second permeate and further comprising the step of bringing the second permeate and an adjuvant in contact with fabric for cleaning.

82. (Previously Added) The method of claim 8, further comprising the step of bringing the filtered working fluid and an adjuvant in contact with fabric for cleaning.

83. (Previously Added) The method of claim 8, wherein filtering the working fluid produces a substantially purified working fluid that is greater than about 90 percent free from contaminates.

84. (Currently Amended) The method of claim 1, wherein the cross flow membrane filter comprises a cross flow membrane comprising ceramic.

85. (Currently Amended) The method of claim 1, wherein the cross flow membrane filter comprises a cross flow membrane comprising polymer.

86. (Currently Amended) The method of claim 1, wherein the cross flow membrane filter comprises a membrane comprising pores that range from 0.005 to 1.0 micron.

87. (Previously Added) The method of claim 1, further comprising cooling the working fluid.

88. (Previously Added) The method of claim 87, wherein the working fluid is cooled by routing the working fluid through a chiller.

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89. (Previously Added) The method of claim 87, wherein the working fluid is cooled to less than 0°C.
90. (Previously Added) The method of claim 1, further comprising filtering the condensate through a dead-end filter.
91. (Previously Added) The method of claim 2, further comprising filtering the condensate through a dead-end filter.
92. (Previously Added) The method of claim 8, wherein the working fluid is cooled to less than 0°C.
93. (Previously Added) The method of claim 8, wherein the working fluid is cooled by routing the working fluid through a chiller.
94. (Previously Added) The method of claim 3, wherein the spinning disc is cooled by the working fluid.
95. (Previously Added) The method of claim 12, wherein the spinning disc is cooled by the working fluid.